

Abstract

Expressed Sequence Tags (ESTs) isolated from the unicellular green algae, *Chlorella*
sarokiniana, are disclosed. The invention encompasses nucleic acid molecules that encode Chlorella
5 protein homologs and fragments thereof. In addition, antibodies capable of binding the proteins are
encompassed by the present invention. The disclosed ESTs have particular utility in isolating genes and
promoters, identifying and mapping the genes involved in developmental and metabolic pathways, and
determining gene function. The ESTs provide a unique molecular tool for the targeting and isolation of
10 novel genes for plant protection and improvement. The invention also relates to methods of using the
disclosed nucleic acid molecules, proteins, fragments of proteins, and antibodies, for example, for gene
identification and analysis, and preparation of constructs.

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